REMARKS

Claims 1-5 and 9-26 are all the claims pending in the application. Claims 1 and 14 have been amended based on, for example, claim 8 and the Examples in the present specification.

Entry of the above amendments is respectfully requested.

I. Rejection of Claims 1-5 and 8-26

Claims 1-5, 9-12, 14-21 and 24-26 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Kondo (US 6,329,061).

In addition, claims 1-5 and 8-26 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kondo in view of Kobata et al. (US 6,673,456).

Applicants respectfully traverse the rejection.

The dispersion of tin-doped indium oxide fine particles of claim 1 has the following features:

(a) the dispersion includes tin-doped indium oxide (ITO) fine particles, a plasticizer for an interlayer film, an organic solvent containing at least one alcohol as a main component, and dispersion stabilizers;

(b) under measuring conditions of a concentration of the tin-doped indium oxide fine particles of 0.7% by weight and an optical path length of a glass cell of 1 mm, a visible light transmittance is 80% or more;

(c) a solar radiation transmittance at a wavelength within a range from 300 nm to 2100 nm is 3/4 or less of the visible light transmittance;

(d) a haze value is 1.0% or less;

(e) a reflection yellow index is -20 or more; and

(f) the dispersion stabilizers include (i) chelate, (ii) organic acid, and (iii) at least one selected from the group consisting of a sulfate ester-based compound, a phosphate ester-based compound, and a polyvinyl alcohol.

By including the organic solvent containing at least one alcohol as a main component, which has hydrophilic properties, the organic solvent becomes excellent in affinity with the ITO fine particles which have hydrophilic properties, and the dispersibility of ITO fine particles is enhanced. Furthermore, by including both of the organic solvent containing at least one alcohol as a main component, and the dispersion stabilizers of the feature (f) (including the components (i) to (iii)), the ITO fine particles are hardly converted into agglomerated particles, and the ITO fine particles are uniformly dispersed; therefore, the solvent shock can be effectively prevented. As a result, the features (b) to (e) can be realized.

As indicators for the solvent shock, the haze value, the reflection yellow index, and the reflection measured value measured by a goniophotometric measurement are discussed. Among them, the haze value has the largest dependency of secondary aggregate particle size of ITO relative to the light path length. Therefore, in the case in which the light path length is short (or the secondary aggregate particle size of ITO is large), the haze value can be used as an indicator for the solvent shock. However, in the case in which the light path length is long as the cases of the present invention and Kondo (US 6,329,061), it is difficult to use the haze value as the indicator for the solvent shock. In such a case, the reflection yellow index and the reflection

measured value are used. Therefore, the solvent shock can be evaluated by using the reflection yellow index.

Kondo (US 6,329,061) discloses a laminated glass having an interlayer film in which functional ultra-fine particles are dispersed. However, in Kondo, there is no description or suggestion of dispersion stabilizers. Therefore, the feature (f) of the present invention is not disclosed, taught or suggested by Kondo.

Accordingly, Kondo does not anticipate claim 1.

The Examiner states that Kondo's dispersion meets the claimed invention wherein polyvinyl butyral is similar to the dispersion stabilizer claimed in the present invention unless applicants show on record that polyvinyl butyral of Kondo is not a dispersion stabilizer. It is respectfully submitted that polyvinyl butyral of Kondo is used as a matrix, and in this case, polyvinyl butyral does not have the effect of the dispersion stabilizer.

In Kondo, polyvinyl butyral is used as a matrix of the interlayer film. This can be recognized by the fact that the amount of polyvinyl butyral is more than 50 wt% (*see* column 7, lines 12 to 14 and 32 to 35 of Kondo). Therefore, Kondo corresponds to the interlayer film of Sample No. 25 in Examples of the present specification (including ITO fine particles, plasticizer, alcohol, and polyvinyl butyral; however, not including dispersion stabilizers 1 to 3 of Table 1). The reflection yellow index of the interlayer film of Sample No. 25 is -17.1 (Table 2-2).

In contrast, the interlayer films for laminated glass manufactured by using the dispersion of ITO fine particles of the present invention on conditions that the primary particle size and the amount of ITO fine particles are the same as those of Sample No. 25, correspond to Sample Nos.

1a and 10 to 12. The reflection yellow index of the interlayer film of Sample No. 25 is much smaller than those (-3.9 to -4.5) of the interlayer films of Sample Nos. 1a and 10 to 12, and therefore, it can be understood that the dispersibility of ITO fine particles of Sample No. 25 (corresponding to Kondo) is very bad.

As described above, in Kondo, polyvinyl butyral is used as the matrix, and in the case in which polyvinyl butyral is used as the matrix, polyvinyl butyral does not have the effect of enhancing the dispersibility of ITO fine particles.

Furthermore, in the present specification, as the dispersion stabilizers, polyvinyl butyral is exemplified together with sulfate ester-based compound, phosphate ester-based compound, and polyvinyl alcohol (dispersion stabilizer 1 of Table 1) (from page 19, line 25 to page 20, line 4).

The interlayer film for laminated glass manufactured by using the dispersion of ITO fine particles which includes polyvinyl butyral in place of the dispersion stabilizer 1 of Table 1, corresponds to Sample No. 17. The reflection yellow index of this interlayer film of Sample No. 17 is -17.1, and is much smaller than those (-3.9 to -4.5) of the interlayer films manufactured by using the dispersions of ITO fine particles of the present invention (Sample Nos. 1a and 10 to 12). Therefore, it can be understood that the dispersibility of ITO fine particles of Sample No. 17 is bad. Here, the primary particle size and the amount of ITO fine particles of Sample No. 17 are same as those of Sample Nos. 1a and 10 to 12. Sample No. 17 and Sample Nos. 1a and 10 to 12 are different in that whether the dispersion stabilizer 1 is included or not, that is, polyvinyl butyral is included in place of the dispersion stabilizer 1 or not. As a result, when using

polyvinyl butyral as the dispersion stabilizer, the effect of sufficiently enhancing the dispersibility of ITO fine particles is not obtained.

Accordingly, in Kondo, polyvinyl butyral is used as the matrix, and polyvinyl butyral does not have the sufficient effect of the dispersion stabilizer. Therefore, polyvinyl butyral of Kondo is not the dispersion stabilizer.

Kobata (US 6,673,456) discloses an intermediate film for laminated glass containing tin-doped indium oxide and/or antimony-doped tin oxide. In Kobata, as dispersants, (a) a chelating agent, (b) a compound with at least one carboxyl group at its terminal position (corresponding to the organic acid), and (c) a modified silicone oil are disclosed (*see* column 9, lines 1 to 4 of Kobata). Furthermore, as the other dispersants, phosphate compounds, sulfate compounds, polycarboxylate, and poly alcohol surfactants are disclosed (*see* column 11, lines 18 to 23 of Kobata).

However, in the Examples of Kobata, an embodiment that includes all the components (i) to (iii) of the feature (f) of the present invention is not disclosed. Therefore, Kobata does not make up for the deficiencies of Kondo.

Hence, the combination of Kondo and Kobata do not teach or suggest the present invention according to claim 1.

For at least the above reasons, it is respectfully submitted that a *prima facie* case of obviousness has not been established since every element of claim 1 is not taught or suggested by Kondo and Kobata.

Furthermore, in the present invention, by including both of the organic solvent containing at least one alcohol as a main component and the dispersion stabilizers of the feature (f) (including the components (i) to (iii)), the significant effect can be obtained that the solvent shock can be effectively prevented. This is demonstrated in Examples of the present specification. When comparing samples of which the primary particle size and the amount of ITO fine particles are the same, Sample Nos. 13, 14, and 17 are raised as the dispersions of ITO fine particles which do not include any one of the components (i) to (iii) of the feature (f), and Sample Nos. 1a and 10 to 12 are raised as the dispersions of ITO fine particles of the present invention. The reflection yellow indexes of the dispersions of ITO fine particles of Sample Nos. 1a and 10 to 12 are in the range of -8.1 to -8.9, and are larger than those (-11.5 to –26.0) of the dispersions of ITO fine particles of Sample Nos. 13, 14, and 17. Therefore, it can be understood that by including both of the organic solvent containing at least one alcohol as a main component and the dispersion stabilizers of the feature (f) (including the components (i) to (iii)), the significant effect can be obtained that the solvent shock can be effectively prevented.

Therefore, in Kondo and Kobata, the significant effect of the present invention that the solvent shock can be effectively prevented, cannot be obtained. As a result the dispersion of ITO fine particles of claim 1 is patentable over Kondo and Kobata.

Furthermore, since claims 2-5 and 9-13 depend from claim 1, it is respectfully submitted that these claims are also patentable over Kondo and Kobata for at least the same reasons.

With respect to claims 14 to 17, inclusion of both of the organic solvent containing at least one alcohol as a main component and the dispersion stabilizers (feature (f)) is not disclosed

in Kondo and Kobata. Furthermore, in the present invention, the occurrence of solvent shock is sufficiently prevented. This effect cannot be attained in Kondo and Kobata, as discussed above. Therefore, the methods for manufacturing the dispersion of tin-doped indium oxide fine particles of claims 14 to 17 are not obvious over Kondo and Kobata, and are patentable over Kondo and Kobata.

With respect to claims 18 to 26, claim 18 recites: (g) it is formed by using a resin composition of a mixture of the dispersion of tin-doped indium oxide fine particles of claim 1 and a resin. As described above, feature (g) is not disclosed in Kondo and Kobata, and the present invention attains effects which cannot be attained in Kondo and Kobata. Therefore, the interlayer film for heat shield laminated glass of claim 18 is not obvious over Kondo and Kobata, and is patentable over Kondo and Kobata.

In addition, since claims 19 to 26 are dependent from claim 18, it is respectfully submitted that these claims are also patentable over Kondo and Kobata for at least the same reasons.

In view of the above, withdrawal of the rejections is respectfully requested.

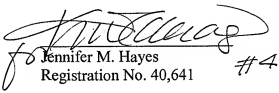
II. Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-5 and 9-26 is respectfully requested.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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